



1117.68338

PATENT APPLICATION

Hw

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Large U.S. Application of:

Applicant(s): Takahiro Sasaki

Serial No.: 10/665,280

Conf. No.: 5624

Filed: September 18, 2003

For: LIQUID CRYSTAL DISPLAY
DEVICE AND LIQUID
ORIENTATION METHOD

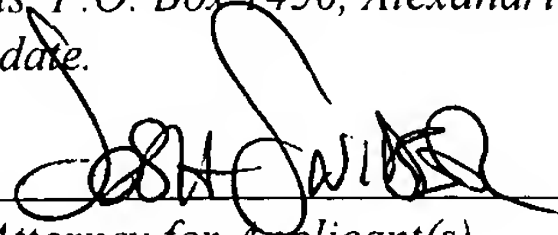
Art Unit: 2871

Examiner: Duong, Thoi V.

I hereby certify that this paper is being deposited with
the United States Postal Service as FIRST-CLASS mail
in an envelope addressed to: Mail Stop AMENDMENT,
Commissioner for Patents, P.O. Box 1450, Alexandria,
VA 22313-1450, on this date.

3/7/07

Date


Attorney for Applicant(s)

Registration No. 47,954

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Dear Sir:

Transmitted herewith is a communication regarding the above-identified application.

(X) Request to Correct File Records and Corrected Transmittal and Corrected Amendment E, with copies of originally filed Transmittal, Amendment E, return postcard, and a Corrected Amendment E (with corrections marked in red).

(X) If a Petition under 37 C.F.R. 1.136(a) for an extension of time for response is required to make the attached response timely and does not separately accompany this transmittal, Applicant(s) hereby petition(s) under 37 C.F.R. 1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

Customer No. 24978

By: 

Josh C. Snider

Registration No. 47,954

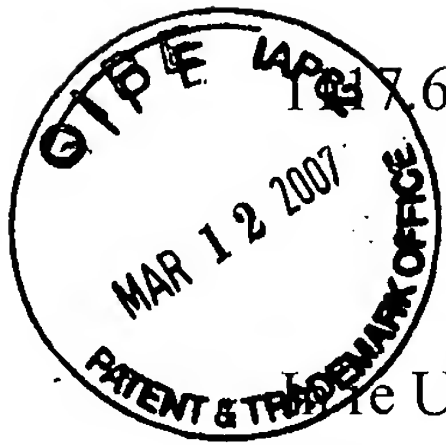
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10/68338

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Application of:

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VA 22313-1450, on this date.*

3/7/07

Date

[Signature]
Attorney for Applicant(s)
Registration No. 47,954

REQUEST TO CORRECT FILE RECORDS AND CORRECTED TRANSMITTAL AND CORRECTED AMENDMENT E

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

On December 29, 2006, Applicants filed in the present case (Serial No. 10/665,280) an Amendment E, together with an Amendment Transmittal and return postcard (copies enclosed). However, due to an inadvertent typographical error, the serial number that appears in the caption to both Amendment E and the Transmittal mistakenly reads as "10/665,224," which is actually the serial number of a related case to this Application. The

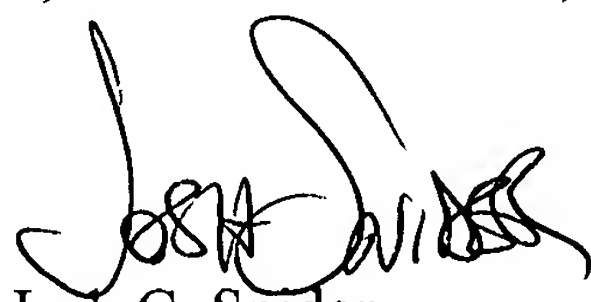
Patent Application Information Retrieval ("PAIR") system presently shows that Amendment E and the Transmittal were entered into the related case, and not into the present case. Applicants therefore respectfully request that these records be corrected to remove Amendment E and the Transmittal from Application Serial No. 10/665,224, and correctly place these two Papers in the present case file for Serial No. 10/665,280.

To eliminate any further potential confusion between the two case files, Applicants further submit herewith a corrected Amendment E, on which the incorrect serial number is struck out, and the corrected serial number written below in red. With respect to the related case though, the papers should just be simply removed from the case file altogether.

Although no fees should be required in connection with this Request, the Commissioner is authorized to charge deposit account number any unpaid amount to Deposit Account No. 07-2069. A duplicate copy of this Paper is enclosed.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 

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COPY

In re Patent Application of
Takahiro Sasaki

For: LIQUID CRYSTAL DISPLAY DEVICE AND LIQUID...

Serial No: 10/665,280

Filed: September 18, 2003

PATENT
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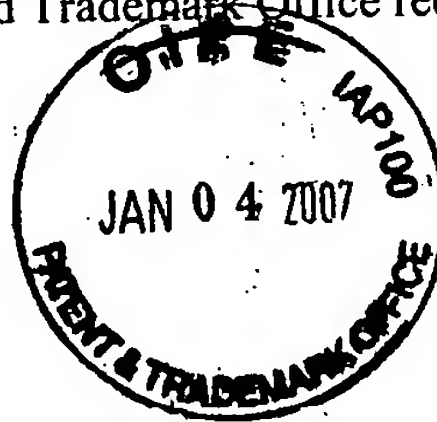
December 29, 2006

Enclosed is a Transmittal (in duplicate); Amendment E; and Certificate of First Class Mail.

Commissioner for Patents

Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

Respectfully,
GREER, BURNS & CRAIN, LTD.



1117.68338

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

COPY

In re U.S. Application of:

Applicant(s): Takahiro Sasaki

Serial No.: 10/665,224

Conf. No.: 6265

Filed: September 18, 2003

For: LIQUID CRYSTAL DISPLAY
DEVICE AND LIQUID
ORIENTATION METHOD

Art Unit: 2871

Examiner: Duong, Thoi V.

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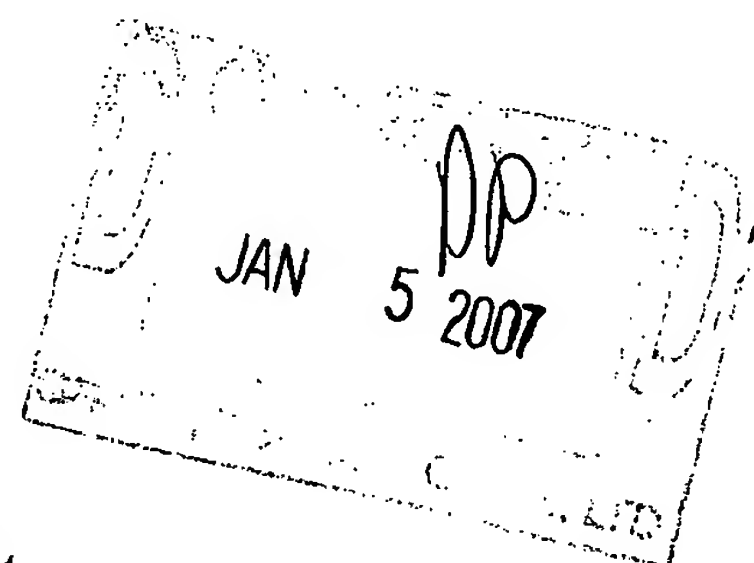
December 29, 2006

Date

Attorney for Applicant(s)

Registration No. 47,954

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**AMENDMENT TRANSMITTAL**

Dear Sir:

Transmitted herewith is a communication regarding the above-identified application.

Fee Calculation For Claims As Amended

	As Amended	Previously Paid For	Present Extra	Rate	Additional Fee
Total Claims	-4-	-20-	= -0-	x \$50.00	= \$.00
Independent Claims	-1-	-10	= -0-	x \$200.00	= \$.00
Fee for Multiple Dependent Claims				\$360.00	= \$.00
Total Additional Fee					\$.00
Small Entity Fee (reduced by half)					\$.00

(X) Amendment E.

(X) If a Petition under 37 C.F.R. 1.136(a) for an extension of time for response is required to make the attached response timely and does not separately accompany this transmittal, Applicant(s) hereby petition(s) under 37 C.F.R. 1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

GREEN BURNS & CRAIN, LTD.

By: Josh C. Snider
Josh C. Snider
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December 29, 2006

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COPY

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PATENT APPLICATION

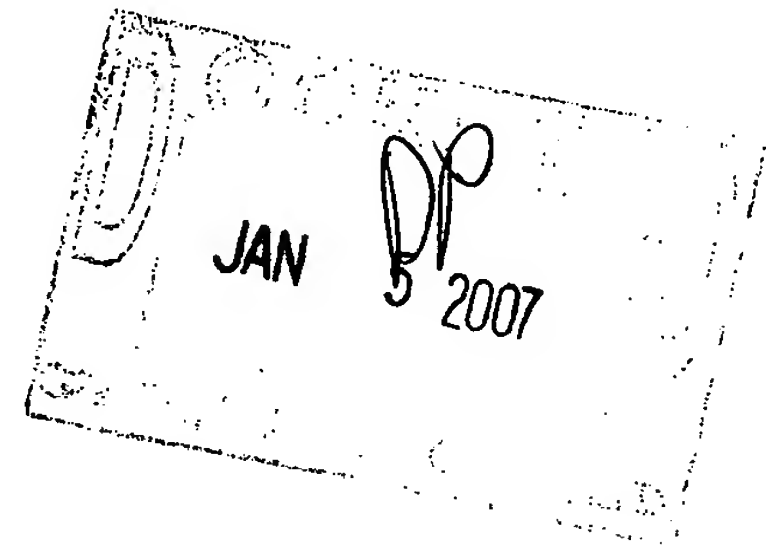
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Application of:)
)
Applicant(s): Takahiro Sasaki)
)
Serial No.: 10/665,224)
)
Conf. No.: 6265)
)
Filed: September 18, 2003)
)
For: LIQUID CRYSTAL DISPLAY)
DEVICE AND LIQUID)
ORIENTATION METHOD)
)
Art Unit: 2871)
)
Examiner: Duong, Thoi V.)

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December 29, 2006
Date

[Signature]
Attorney for Applicant(s)
Registration No. 47,954



AMENDMENT E

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action mailed September 29, 2006, please amend the above-identified Application as follows:

COPY

IN THE CLAIMS:

Please amend claim 22 as follows:

1-21. (Cancelled)

22. (Currently Amended) A liquid crystal display device comprising:

a first substrate having thereon a pixel electrode in an active element;

a second substrate having thereon an opposed electrode; and

a liquid crystal layer interposed between said first and second substrates with said electrodes facing each other,

wherein a first orientation control element extends in a nonparallel direction relative to an extending direction of an edge of said pixel electrode and a second orientation control element extends in a parallel direction relative to an extending direction of said edge,

wherein said first orientation control element is provided on said first and second substrates respectively,

wherein at least a part of liquid crystal molecules of said liquid crystal layer on said second orientation control element are orientated in a vertical direction relative to said substrate when voltage is being applied between said pixel and opposed electrodes,

wherein ~~at least one of~~ said first and second orientation control elements is a slit formed in said pixel electrode as a pattern-cutting and in an oblique direction relative to an extending direction of said edge and,

wherein said second orientation control element is provided on said second substrate, and said pixel electrode does not exist on at least a part of a place on said first substrate opposed to said second orientation control element.

23-25. (Cancelled)

26. (Original) The device according to claim 22, wherein a dielectric anisotropy of said liquid crystal molecules of said liquid crystal layer is negative.

27-33. (Cancelled)

34. (Previously Presented) The device according to claim 22, wherein said liquid crystal molecules on said second orientation control element are oriented in a non-vertical direction relative to a longitudinal direction of said second orientation control element when no voltage is applied.

35. (Previously Presented) The device according to claim 34, wherein said liquid crystal molecules on said second orientation control element are oriented in a direction of 45° relative to the longitudinal direction of said second orientation control element.

REMARKS

As a preliminary matter, Applicant thanks the Examiner for the withdrawal of the previous anticipation rejection based only upon the Song reference (U.S. 6,710,837).

Claims 22 and 26 stand rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al., which is listed in the Office Action as “U.S. 6,710,837.” U.S. 6,710,837, however, is the reference number to the previously cited Song reference. Applicant presumes that the Examiner meant to refer to Yoon as. “U.S. 6,593,982,” which is elsewhere correctly listed (paragraph 2) in the Office Action. Based on this assumption, Applicant respectfully traverses the rejection because Yoon does not teach pattern-cut slits as orientation control elements, as in independent claim 22 of the present invention, as amended.

The Examiner asserts that Yoon’s opening pattern 51 and depression pattern 81 are collectively equivalent to the first orientation control element of the present invention, and that branches of the depression pattern 81 (located at regions A-D in Fig. 10) are analogous to the second orientation control element of the present invention. According to these assertions, Yoon cannot read upon amended claim 22 of the present invention. Neither of Yoon’s pattern 81 or its branches are pattern-cut into the pixel electrode itself. Quite the contrary, Yoon clearly teaches that the pattern 81 is formed from following the contours of gaps in the color filters 61 below the pattern. (See col. 8, lines 46-54).

In contrast, claim 22 of the present invention now more clearly recites, among other things, that the first and second orientation control elements of the present invention are themselves pattern-cut slits formed in the pixel electrode itself. Yoon cannot anticipate such

features. Cut slits may be formed into significantly different patterns than the depression patterns formed by Yoon. Yoon's depression patterns 81 are restricted to only the contours of the color filters below them, whereas the cut slits of the present invention may be formed into any pattern desired by the present inventors, irrespective of the color filters. Support for these amendments can be found at least at page 27, lines 17-28 of the present Specification. Accordingly, for at least these reasons, the Section 102 rejection based on Yoon is respectfully traversed.

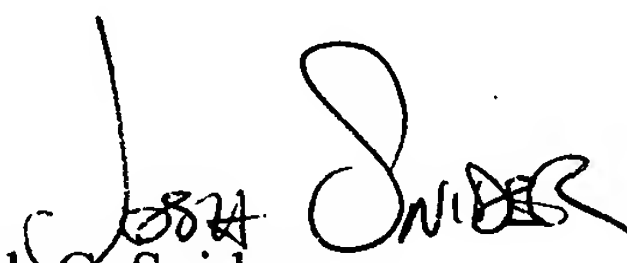
Claims 34 and 35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Song. As discussed above, the Examiner has mistakenly listed both of these cited references by the same reference number. Applicant therefore respectfully traverses the rejection based on the same assumptions made above, and for the same reasons discussed above. Claims 34 and 35 depend directly or indirectly from independent claim 22, and therefore include all of the features of the base claim, plus additional features. Song similarly fails to show that the apertures 270 are pattern-cut into the pixel electrode itself. As also discussed above, the pattern-cut slits of the present invention realize significant advantages and versatility over both of Yoon's depression patterns 81 and Song's linear apertures 270. Accordingly, the Section 103 rejection based on a combination of Yoon with Song is also respectfully traversed.

COPY

For all of the foregoing reasons, Applicant submits that this Application, including claims 22, 26, and 34-35, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if a further interview would help expedite prosecution.

Respectfully submitted,
GREER, BURNS & CRAIN, LTD.

By


Josh E. Snider
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Customer No. 24978

December 29, 2006

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1117.68338

Corrected Amendment E Transmittal

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Application of:)
 Applicant(s): Takahiro Sasaki)
 Serial No.: ~~10/665,224~~)
 10/665,280)
 Conf. No.: ~~6265~~)
 5624)
 Filed: September 18, 2003)
 For: LIQUID CRYSTAL DISPLAY)
 DEVICE AND LIQUID)
 ORIENTATION METHOD)
 Art Unit: 2871)
 Examiner: Duong, Thoi V.)

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December 29, 2006
 Date

Josh C. Snider
 Attorney for Applicant(s)
 Registration No. 47,954

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				Total Additional Fee	\$.00
				Small Entity Fee (reduced by half)	\$.00

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GREEN, BURNS & CRAIN, LTD.

By: *Josh C. Snider*
 Josh C. Snider
 Registration No. 47,954

Corrected Amendment E



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PATENT APPLICATION

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In re U.S. Application of:)

Applicant(s): Takahiro Sasaki)

Serial No.: ~~10/665,224~~)
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Corrected Amendment E

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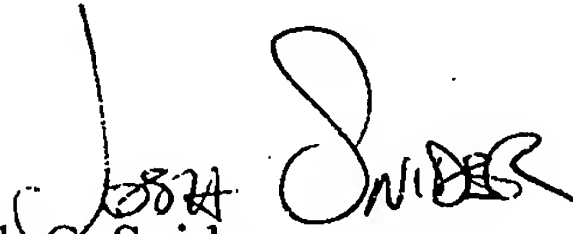
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○ **Corrected Amendment E** ○

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